National Institute of Environmental Health Sciences

Healthy people 2100: Modeling population health impacts of climate change

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Abstract:

Quantitatively estimating the potential health impacts of climate change is facilitated by multi-determinant models that integrate micro- to macro-level exposures and processes that influence disease occurrence, including the public health responses, in order to identify regions and population groups that may be more vulnerable. Although progress has been made in constructing systems-based models, considerable work is required to address key issues of quantification of the climate-health associations and the factors that affect those associations; specification of model(s) appropriate to incorporate climate change, adaptation, and mitigation policies; incorporation of thresholds; incorporation of pathways of public health development; and quantification of uncertainties.

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Resource Description

Climate Scenario :

specification of climate scenario (set of assumptions about future states related to climate)

Special Report on Emissions Scenarios (SRES)

Special Report on Emissions Scenarios (SRES) Scenario: SRES A2

Exposure :

weather or climate related pathway by which climate change affects health

Air Pollution, Ecosystem Changes, Extreme Weather Event, Food/Water Security, Temperature

Air Pollution: Allergens, Ozone

Extreme Weather Event: Drought, Flooding, Landslides

Food/Water Security: Food Access/Distribution, Nutritional Quality

Temperature: Extreme Cold, Extreme Heat

Geographic Feature:

resource focuses on specific type of geography

Ocean/Coastal, Tropical, Urban

Geographic Location: ☑

resource focuses on specific location

Global or Unspecified

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Diabetes/Obesity, Infectious Disease, Injury, Morbidity/Mortality

Infectious Disease: Foodborne/Waterborne Disease, General Infectious Disease, Vectorborne Disease

Foodborne/Waterborne Disease: General Foodborne/Waterborne Disease, Other Diarrheal Disease

Vectorborne Disease: Mosquito-borne Disease

Mosquito-borne Disease: Malaria

Medical Community Engagement: ☑

resource focus on how the medical community discusses or acts to address health impacts of climate change

A focus of content

Mitigation/Adaptation: ☑

mitigation or adaptation strategy is a focus of resource

Adaptation

Model/Methodology: ☑

type of model used or methodology development is a focus of resource

Cost/Economic, Exposure Change Prediction, Methodology, Outcome Change Prediction

Resource Type: ☑

format or standard characteristic of resource

Review

Timescale: ☑

time period studied

Long-Term (>50 years)